CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

NABL - Accredited Laboratory as per ISO / IEC-17025 :2005

T-2377

Job No.: CTCE/BBMP/KRIDL/W.No.12/CSR-01/235q/CEMENT/2016-17 Date: 04.01.2017

TEST REPORT ON CEMENT

* Customer	:	**Asst. Executive Engineer,** Shettyhalli Sub Division, BBMP, Bangalore.
* Agency	:	**Technical Manager (West),** KRIDL, Bangalore.
* Name of Work	:	Improvements to main and cross roads at Reddy layout Ravindranagara Air force compound in Ward No.12, Shettyhalli Sub Division, BBMP, Bangalore.
* Reference	:	AEE/SSD/PR/QC/45/2016-17 Dated: 02.01.2017
* Sample ID	:	Cement
Sample Received on	:	02.01.2017
Period of Testing	:	02.01.2017 to 04.01.2017

The results of the tests conducted on the cement sample are as follows:

Sl. No	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 8112-2013
1	Standard Consistency	IS-4031 (Part -4) 1988 (RA-2014)	28.00 %	-
2	a) Initial Setting Time	IS-4031 (Part -5) 1988 (RA-2014)	140 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part -5) 1988 (RA-2014)	480 Minutes	Not More than 600 Minutes
3	Soundness by Le Chartlier Method	IS-4031 (Part-3) 1988 (RA-2014)	1 mm	Not more than 10mm

*Information is furnished by the Customer/Representative.

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AE-12

ನಮಸ್ಕಾರ ಕಾಮಗಾರಿಯಲ್ಲಿಯಂತೆರವು
ಪೆಟ್ಟಿಕೆಳ ಬಿಟ್ಟಿಪಟ್ಟಿಗೆ, ಬಾಲುಳ್ಳ ಸಲುವು
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ
ಎಸ್.ಎಂ. ರಸ್ತೆ, ರವೀಂದ್ರನಾಥ, ಬೆಂಗಳೂರು

****

VIDYARANI P.K.
Technical Manager

#23/14, 7th Cross, 3rd Stage, 4th Block, Shakthi Ganapathi Nagara, Basaveshwaranagar, Bangalore-79.
Tele Fax : 23223227, Website : www.civiltechconsultants.com
E-mail : vishwanath.ia@civiltechconsultants.com / info@civiltechconsultants.com

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Job No.: CTCE/BBMP/KRIDL/W.No.12/CSR-01/235q/SAND Gradation/2016-17 04.01.2017

TEST REPORT ON SIEVE ANALYSIS OF FINE AGGREGATES

* Customer	: **Asst. Executive Engineer,** Shettyhalli Sub Division, BBMP, Bangalore.
* Agency	: **Technical Manager (West),** KRIDL, Bangalore.
* Name of Work	: Improvements to main and cross roads at Reddy layout Ravindranagara Air force compound in Ward No.12, Shettyhalli Sub Division, BBMP, Bangalore.
* Reference	: AEE/SSD/PR/QC/45/2016-17 Dated: 02.01.2017
* Sample ID	: Fine Aggregates
Technical Reference	: IS : 2386 (Part 1) - 1963 (RA-2011)
Sample Received On	: 02.01.2017
Date of Testing	: 04.01.2017

Total Wt. of Aggregates in gms = **1000**

IS Sieve Size in mm	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA- 2011)			
		Zone-I	Zone-II	Zone-III	Zone-IV
10	100	100	100	100	100
4.75	94.20	90-100	90-100	90-100	95-100
2.36	71.80	60-95	75-100	85-100	95-100
1.18	45.30	30-70	55-90	75-100	90-100
600 Micron	20.80	15-34	35-59	60-79	80-100
300 Micron	9.30	5-20	8-30	12-40	15-50
150 Micron	4.00	0-10	0-10	0-10	0-15

* Information is furnished by the Customer/Representative

Remarks : This sample is under Zone-I specific limits.

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M-12
ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಶೆಟ್ಟಿಹಳ್ಳಿ ಉಪವಿಭಾಗ, ಬಿಬಿಎಂಪಿ ಬೆಂಗಳೂರು
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ
ಎಸ್.ಎಂ. ರಸ್ತೆ, ರವೀಂದ್ರನಗರ, ಬೆಂಗಳೂರು.

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E-mail : vishwanath.ia@civiltechconsultants.com / info@civiltechconsultants.com

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Job No.: CTCE/BBMP/KRIDL/W.No.12/CSR-01/235q/AGG/GR/2016-17 04.01.2017

TEST REPORT ON SIEVE ANALYSIS OF COARSE AGGREGATES

* Customer	:	**Asst. Executive Engineer,** Shettyhalli Sub Division, BBMP, Bangalore.
* Agency	:	**Technical Manager (West),** KRIDL, Bangalore.
* Name of Work	:	Improvements to main and cross roads at Reddy layout Ravindranagara Air force compound in Ward No.12, Shettyhalli Sub Division, BBMP, Bangalore.
* Reference	:	AEE/SSD/PR/QC/45/2016-17 Dated: 02.01.2017
* Sample ID	:	Coarse Aggregates (40mm)
Technical Reference	:	IS : 2386 (Part 1) -1963 (RA-2011)
Sample Received on	:	02.01.2017
Date of Testing	:	04.01.2017

Total Wt. of Aggregates in gms= **5000**

IS Sieve Size in mm	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA- 2011)	
		Graded	Single Sized
80	100	100	-
63	100	-	100
40	97.50	95-100	85-100
20	37.90	30-70	0-20
10	15.20	10-35	0-5
4.75	3.60	0-5	-

* Information is furnished by the Customer/Representative

Remarks : This sample is under graded specific limits.

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ಸಹಾಯಕ ಕಾರ್ಯನಿರ್ವಾಹಕ ಅಭಿಯಂತರರು
ಶೆಟ್ಟಿಹಳ್ಳಿ ಉಪವಿಭಾಗ, ದಾಸರಹಳ್ಳಿ ವಲಯ
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ
ಮಿಲ್ಕ್.ಎಂ. ರಸ್ತೆ, ರವೀಂದ್ರನಗರ, ಬೆಂಗಳೂರು

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E-mail : vishwanath.ia@civiltechconsultants.com / info@civiltechconsultants.com

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Job No.: CTCE/BBMP/KRIDL/W.No.12/Steel/2016-17 05.01.2017

TEST REPORT ON REINFORCEMENT STEEL

* Customer	:	**Asst. Executive Engineer,** Shettyhalli Sub Division, BBMP, Bangalore.
* Agency	:	**Technical Manager (West),** KRIDL, Bangalore.
* Name of work	:	Improvements to main and cross roads at Reddy layout Ravindranagara Air force compound in Ward No.12, Shettyhalli Sub Division, BBMP, Bangalore.
* Reference	:	AEE/SSD/PR/QC/45/2016-17 Dated: 02.01.2017
* Samples ID	:	10 mm Bar
Technical Reference	:	IS: 1786-2008 (RA-2013)
Date of Testing	:	05.01.2017

Sl No	Nominal size (dia) (mm)	Mass per metre (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm2	Tensile strength (Ultimate stress) N/mm2	Elongation percent gauge length		
1	10	0.62	512	553	13.35	O.K	O.K

*Information is furnished by the Customer/Representative.

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ಶೆಟ್ಟಿಹಳ್ಳಿ ಉಪವಿಭಾಗ, ಬಾಸವಹಳ್ಳಿ ವಲಯ
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Civil-tech Consultants & Engineers
#23/14, 7th Cross 3rd Stage 4th Block,
Shakthi Ganapathinagar,
Basaveshwaranagar, Bangalore-560 079.

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Job No.: CTCE/BBMP/KRIDL/W.No.12/Steel/2016-17 05.01.2017

TEST REPORT ON REINFORCEMENT STEEL

* Customer	:	**Asst. Executive Engineer,** Shettyhalli Sub Division, BBMP, Bangalore.
* Agency	:	**Technical Manager (West),** KRIDL, Bangalore.
* Name of work	:	Improvements to main and cross roads at Reddy layout Ravindranagara Air force compound in Ward No.12, Shettyhalli Sub Division, BBMP, Bangalore.
* Reference	:	AEE/SSD/PR/QC/45/2016-17 Dated: 02.01.2017
* Samples ID	:	12 mm Bar
Technical Reference	:	IS: 1786-2008 (RA-2013)
Date of Testing	:	05.01.2017

Sl No	Nominal size (dia) (mm)	Mass per metre (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm2	Tensile strength (Ultimate stress) N/mm2	Elongation percent gauge length		
1	12	0.89	514	555	13.50	O.K	O.K

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Civil-tech Consultants & Engineers
#23/14, 7th Cross, 3rd Stage, 4th Block,
Shakthi Ganapathinagar,
Basaveshwaranagar, Bangalore-560 079.

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Job No.: CTCE/BBMP/KRIDL/W.No.12/CSR-01/235q/Cube/2016-17 04.02.2017

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

* Customer	:	**Asst. Executive Engineer,** Shettyhalli Sub Division, BBMP, Bangalore.
* Agency	:	**Technical Manager (West),** KRIDL, Bangalore.
* Name of the work	:	Improvements to main and cross roads at Reddy layout Ravindranagara Air force compound in Ward No.12, Shettyhalli Sub Division, BBMP, Bangalore.
* Reference	:	AEE/SSD/PR/QC/45/2016-17 Dated: 02.01.2017
* Sample ID	:	RCC Drain Concrete
Technical Reference	:	IS: 516-1959 (RA-2013)
Size of cubes	:	150mmx150mmx150mm
Cross Sectional Area	:	22500 mm^2
* Grade of Concrete	:	M_{20}
Compressive Strength as on	:	28^{th} day
Sample Received on	:	04.02.2017

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	07.01.2017	04.02.2017	8.258	503.6	22.38
2	07.01.2017	04.02.2017	8.374	517.1	22.98
3	07.01.2017	04.02.2017	8.496	529.8	23.55

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VIDYARANI P.K.
Technical Manager

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Job No.: CTCE/BBMP/KRIDL/W.No.12/CSR-01/235q/Cube/2016-17 04.02.2017

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

* Customer	:	**Asst. Executive Engineer,** Shettyhalli Sub Division, BBMP, Bangalore.
* Agency	:	**Technical Manager (West),** KRIDL, Bangalore.
* Name of the work	:	Improvements to main and cross roads at Reddy layout Ravindranagara Air force compound in Ward No.12, Shettyhalli Sub Division, BBMP, Bangalore.
* Reference	:	AEE/SSD/PR/QC/45/2016-17 Dated: 02.01.2017
* Sample ID	:	RCC Drain Concrete
Technical Reference	:	IS: 516-1959 (RA-2013)
Size of cubes	:	150mmx150mmx150mm
Cross Sectional Area	:	22500 mm^2
* Grade of Concrete	:	M_{20}
Compressive Strength as on	:	28^{th} day
Sample Received on	:	04.02.2017

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	07.01.2017	04.02.2017	8.256	506.3	22.50
2	07.01.2017	04.02.2017	8.374	514.8	22.88
3	07.01.2017	04.02.2017	8.412	529.6	23.54

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Technical Manager

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Job No.: CTCE/BBMP/KRIDL/W.No.12/CSR-01/235q/Cube/2016-17 06.02.2017

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

* Customer	:	**Asst. Executive Engineer,** Shettyhalli Sub Division, BBMP, Bangalore.
* Agency	:	**Technical Manager (West),** KRIDL, Bangalore.
* Name of the work	:	Improvements to main and cross roads at Reddy layout Ravindranagara Air force compound in Ward No.12, Shettyhalli Sub Division, BBMP, Bangalore.
* Reference	:	AEE/SSD/PR/QC/45/2016-17 Dated: 02.01.2017
* Sample ID	:	RCC Drain Concrete
Technical Reference	:	IS: 516-1959 (RA-2013)
Size of cubes	:	150mmx150mmx150mm
Cross Sectional Area	:	22500 mm^2
* Grade of Concrete	:	M_{30}
Compressive Strength as on	:	28^{th} day
Sample Received on	:	06.02.2017

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	09.01.2017	06.02.2017	8.263	495.2	22.01
2	09.01.2017	06.02.2017	8.347	513.7	22.83
3	09.01.2017	06.02.2017	8.412	528.4	23.48

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ಆರ್.ಎಂ. ಬ್ಲಾಕ್, ಸದಾಶಿವನಗರ, ಬೆಂಗಳೂರು

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* Customer	: **Asst. Executive Engineer,** Shettyhalli Sub Division, BBMP, Bangalore.
* Agency	: **Technical Manager (West),** KRIDL, Bangalore.
* Name of the work	: Improvements to main and cross roads at Reddy layout Ravindranagara Air force compound in Ward No.12, Shettyhalli Sub Division, BBMP, Bangalore.
* Reference	: AEE/SSD/PR/QC/45/2016-17 Dated: 02.01.2017
* Sample ID	: RCC Drain Concrete
Technical Reference	: IS: 516-1959 (RA-2013)
Size of cubes	: 150mmx150mmx150mm
Cross Sectional Area	: 22500 mm^2
* Grade of Concrete	: M_{30}
Compressive Strength as on	: 28^{th} day
Sample Received on	: 06.02.2017

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	09.01.2017	06.02.2017	8.148	502.6	22.34
2	09.01.2017	06.02.2017	8.362	528.9	23.51
3	09.01.2017	06.02.2017	8.274	514.2	22.85

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VIDYARANI P.K.
Technical Manager

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